

**LIBBY, MT VERMICULITE MINING/PRODUCTION**  
**Data Sources**

SDMS Document ID



1061589

**ADMINISTRATIVE RECORD**

Line No.	Column No.	Year	Line		Source	
			No.	Description	Title	Ref.
(1)	1	1963	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1963	
(2)	1	1963	30-34	Reagents	Zonolite Div: W R Grace & Co, Libby Mine - Reagent Consumption Per Ton Concentrate - Flotation Production - 1964 (Pr. Yr.)	20200100
(3)	2	1964	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1964	
(4)	2	1964	30-34	Reagents	Zonolite Div: W R Grace & Co, Libby Mine - Reagent Consumption Per Ton Concentrate - Flotation Production - 1964	20200100
(5)	3	1965	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1965	
(6)	3	1965	30-34	Reagents	Zonolite Div: W R Grace & Co, Libby Mine - Reagent Consumption Per Ton Concentrate - Flotation Production - 1965	20200095
(7)	4	1966	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1966	
(8)	4	1966	29-34	Reagents	Zonolite Div: W R Grace & Co, Libby Mine - Reagent Consumption Per Ton Concentrate - Flotation Production - 1966	20200118
(9)	5	1973	1	Total Tons Mined	= Line 2 + Line 3	
(10)	5	1973	2	Waste Mined	Monthly Mine Summary Report November 21 through December 24, 1973	LSB5400624
(11)	5	1973	3	Ore Mined	Monthly Mine Summary Report November 21 through December 24, 1973	LSB5400624
(12)	5	1973	4	Ore Mined	= Line 3	
(13)	5	1973	5	Ore Waste	= Line 4 - Line 6	
(14)	5	1973	6	Crude to Mill	Monthly Mill Summary Report November 21 through December 24, 1973	LSB5400628
(15)	5	1973	7	Crude Dry	= Line 6	
(16)	5	1973	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(17)	5	1973	9	Product Tons	Monthly Mill Summary Report November 21 through December 24, 1973	LSB5400628
(18)	5	1973	10	% Product to Crude	= Line 9 / Line 7	
(19)	5	1973	11	Mill Product Tons	= Line 9	
(20)	5	1973	12	Tonnage Loss	= Line 11 - Line 13	
(21)	5	1973	13	Dry Product Tons	Monthly Mill Summary Report November 21 through December 24, 1973	LSB5400628
(22)	5	1973	14	Dry Product Tons	= Line 13	
(23)	5	1973	15	Tonnage Loss	= Line 14 - Line 16	
(24)	5	1973	16	Screened Product Tons	= Line 14 Due to Insufficient Source Data	
(25)	5	1973	17	Sold % of Tons Mined	= Line 16 / Line 1	
(26)	5	1973	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1973	
(27)	5	1973	19-23	Reagents	Monthly Mill Summary Report November 21 through December 24, 1973 - Reagents Used - Flotation	LSB5400630
		1974	NOTE		Full Year Mill Reports Not Found Due to Switch to NEW MILL in mid year.	
(28)	6	1974	1	Total Tons Mined	= Line 2 + Line 3	
(29)	6	1974	2	Waste Mined	Monthly Mine Summary Report November 21 through December 24, 1974	06043436
(30)	6	1974	3	Ore Mined	Monthly Mine Summary Report November 21 through December 24, 1974	06043436
(31)	6	1974	4	Ore Mined	= Line 3	
(32)	6	1974	5	Ore Waste	= Line 4 - Line 6	
(33)	6	1974	6	Crude to Mill	Monthly Mine Summary Report November 21 through December 24, 1974	06043436
(34)	6	1974	7	Crude Dry	= Line 6	
(35)	6	1974	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(36)	6	1974	9	Product Tons	Full Year Mill Reports Not Found Due to Switch to NEW MILL in mid year.	
(37)	6	1974	10	% Product to Crude	= Line 9 / Line 7	
(38)	6	1974	11	Mill Product Tons	= Line 9	
(39)	6	1974	12	Tonnage Loss	= Line 11 - Line 13	
(40)	6	1974	13	Dry Product Tons	Full Year Mill Reports Not Found Due to Switch to NEW MILL in mid year.	
(41)	6	1974	14	Dry Product Tons	= Line 13	
(42)	6	1974	15	Tonnage Loss	Full Year Mill Reports Not Found Due to Switch to NEW MILL in mid year.	
(43)	6	1974	16	Screened Product Tons	Same as tons Shipped (Line 18) due to missing Mill Report for 1974	
(44)	6	1974	17	Sold % of Tons Mined	= Line 16 / Line 1	
(45)	6	1974	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1974	
(46)	6	1974	19-24	Reagents	New Mill Monthly Report November 21 through December 24, 1974 - Reagents Used - Flotation	06043931
(47)	7	1975	1	Total Tons Mined	= Line 2 + Line 3	
(48)	7	1975	2	Waste Mined	Monthly Mine Summary Report November 21 through December 24, 1975	06044181
(49)	7	1975	3	Ore Mined	Monthly Mine Summary Report November 21 through December 24, 1975	06044181
(50)	7	1975	4	Ore Mined	= Line 3	

# LIBBY, MT VERMICULITE MINING/PRODUCTION

## Data Sources

Line No.	Column No.	Year	Line		Source	
			No.	Description	Title	Ref.
(51)	7	1975	5	Ore Waste	= Line 4 - Line 6	
(52)	7	1975	6	Crude to Mill	New Mill Monthly Statistical Report November 21 through December 24, 1975	06043796
(53)	7	1975	7	Crude Dry	= Line 6	
(54)	7	1975	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(55)	7	1975	9	Product Tons	New Mill Monthly Statistical Report November 21 through December 24, 1975	06043796
(56)	7	1975	10	% Product to Crude	= Line 9 / Line 7	
(57)	7	1975	11	Mill Product Tons	= Line 9	
(58)	7	1975	12	Tonnage Loss	= Line 11 - Line 13	
(59)	7	1975	13	Dry Product Tons	New Mill Monthly Statistical Report November 21 through December 24, 1975	06043796
(60)	7	1975	14	Dry Product Tons	= Line 13	
(61)	7	1975	15	Tonnage Loss	= Line 14 - Line 16	
(62)	7	1975	16	Screened Product Tons	New Mill Monthly Statistical Report November 21 through December 24, 1975	06043796
(63)	7	1975	17	Sold % of Tons Mined	= Line 16 / Line 1	
(64)	7	1975	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1975	
(65)	7	1975	19-24	Reagents	New Mill Monthly Statistical Report November 21 through December 24, 1975 - Reagents Used	06043931
(66)	8	1976	1	Total Tons Mined	= Line 2 + Line 3	
(67)	8	1976	2	Waste Mined	Monthly Mine Summary Report November 21 through December 24, 1976	06043377
(68)	8	1976	3	Ore Mined	Monthly Mine Summary Report November 21 through December 24, 1976	06043377
(69)	8	1976	4	Ore Mined	= Line 3	
(70)	8	1976	5	Ore Waste	= Line 4 - Line 6	
(71)	8	1976	6	Crude to Mill	Monthly Mine Summary Report November 21 through December 24, 1976	06043377
(72)	8	1976	7	Crude Dry	= Line 6	
(73)	8	1976	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(74)	8	1976	9	Product Tons	New Mill Monthly Statistical Report November 21 through December 25, 1976	06043640
(75)	8	1976	10	% Product to Crude	= Line 9 / Line 7	
(76)	8	1976	11	Mill Product Tons	= Line 9	
(77)	8	1976	12	Tonnage Loss	= Line 11 - Line 13	
(78)	8	1976	13	Dry Product Tons	New Mill Monthly Statistical Report November 21 through December 25, 1976	06043640
(79)	8	1976	14	Dry Product Tons	= Line 13	
(80)	8	1976	15	Tonnage Loss	= Line 14 - Line 16	
(81)	8	1976	16	Screened Product Tons	New Mill Monthly Statistical Report November 21 through December 25, 1976	06043640
(82)	8	1976	17	Sold % of Tons Mined	= Line 16 / Line 1	
(83)	8	1976	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1976	
(84)	8	1976	19-24	Reagents	New Mill Monthly Statistical Report November 21 through December 25, 1976 - Reagents Used	06043652
(85)	9	1977	1	Total Tons Mined	= Line 2 + Line 3	
(86)	9	1977	2	Waste Mined	"Amended" Monthly Mine Summary Report November 21 through December 24, 1977	06044136
(87)	9	1977	3	Ore Mined	"Amended" Monthly Mine Summary Report November 21 through December 24, 1977	06044136
(88)	9	1977	4	Ore Mined	= Line 3	
(89)	9	1977	5	Ore Waste	= Line 4 - Line 6	
(90)	9	1977	6	Crude to Mill	"Amended" Monthly Mine Summary Report November 21 through December 24, 1977	06044136
(91)	9	1977	7	Crude Dry	= Line 6	
(92)	9	1977	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(93)	9	1977	9	Product Tons	New Mill Monthly Statistical Report November 21 through December 23, 1977	06044488
(94)	9	1977	10	% Product to Crude	= Line 9 / Line 7	
(95)	9	1977	11	Mill Product Tons	= Line 9	
(96)	9	1977	12	Tonnage Loss	= Line 11 - Line 13	
(97)	9	1977	13	Dry Product Tons	New Mill Monthly Statistical Report November 21 through December 23, 1977	06044488
(98)	9	1977	14	Dry Product Tons	= Line 13	
(99)	9	1977	15	Tonnage Loss	= Line 14 - Line 16	
(100)	9	1977	16	Screened Product Tons	New Mill Monthly Statistical Report November 21 through December 23, 1977	06044488
(101)	9	1977	17	Sold % of Tons Mined	= Line 16 / Line 1	

# LIBBY, MT VERMICULITE MINING/PRODUCTION

## Data Sources

Line No.	Column No.	Year	Line		Source	
			No.	Description	Title	Ref.
(102)	9	1977	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1977	
(103)	9	1977	19-24	Reagents	New Mill Monthly Statistical Report November 21 through December 23, 1977 - Reagents Used	06044502
(104)	10	1978	1	Total Tons Mined	= Line 2 + Line 3	
(105)	10	1978	2	Waste Mined	Monthly Mine Summary Report November 21 through December 22, 1978	LSB5403151
(106)	10	1978	3	Ore Mined	Monthly Mine Summary Report November 21 through December 22, 1978	LSB5403151
(107)	10	1978	4	Ore Mined	= Line 3	
(108)	10	1978	5	Ore Waste	= Line 4 - Line 6	
(109)	10	1978	6	Crude to Mill	New Mill Monthly Statistical Report Report November 21 through December 26, 1978	06045621
(110)	10	1978	7	Crude Dry	= Line 6	
(111)	10	1978	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(112)	10	1978	9	Product Tons	New Mill Monthly Statistical Report Report November 21 through December 26, 1978	06045621
(113)	10	1978	10	% Product to Crude	= Line 9 / Line 7	
(114)	10	1978	11	Mill Product Tons	= Line 9	
(115)	10	1978	12	Tonnage Loss	= Line 11 - Line 13	
(116)	10	1978	13	Dry Product Tons	New Mill Monthly Statistical Report Report November 21 through December 26, 1978	06045621
(117)	10	1978	14	Dry Product Tons	= Line 13	
(118)	10	1978	15	Tonnage Loss	= Line 14 - Line 16	
(119)	10	1978	16	Screened Product Tons	New Mill Monthly Statistical Report Report November 21 through December 26, 1978	06045621
(120)	10	1978	17	Sold % of Tons Mined	= Line 16 / Line 1	
(121)	10	1978	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1978	
(122)	10	1978	19-24	Reagents	New Mill Monthly Statistical Report Report November 21 through December 26, 1978 - Reagents Used	06045632
(123)	11	1979	1	Total Tons Mined	= Line 2 + Line 3	
(124)	11	1979	2	Waste Mined	Chart - Mining By Years 1976-1981	06051739
(125)	11	1979	3	Ore Mined	Chart - Mining By Years 1976-1981	06051739
(126)	11	1979	4	Ore Mined	= Line 3	
(127)	11	1979	5	Ore Waste	= Line 4 - Line 6	
(128)	11	1979	6	Crude to Mill	New Mill Monthly Statistical Report November 21 through December 25, 1979	06051630
(129)	11	1979	7	Crude Dry	= Line 6	
(130)	11	1979	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(131)	11	1979	9	Product Tons	New Mill Monthly Statistical Report November 21 through December 25, 1979	06051630
(132)	11	1979	10	% Product to Crude	= Line 9 / Line 7	
(133)	11	1979	11	Mill Product Tons	= Line 9	
(134)	11	1979	12	Tonnage Loss	= Line 11 - Line 13	
(135)	11	1979	13	Dry Product Tons	New Mill Monthly Statistical Report November 21 through December 25, 1979	06051630
(136)	11	1979	14	Dry Product Tons	= Line 13	
(137)	11	1979	15	Tonnage Loss	= Line 14 - Line 16	
(138)	11	1979	16	Screened Product Tons	New Mill Monthly Statistical Report November 21 through December 25, 1979	06051630
(139)	11	1979	17	Sold % of Tons Mined	= Line 16 / Line 1	
(140)	11	1979	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1979	
(141)	11	1979	19-23, 25	Reagents	New Mill Monthly Statistical Report November 21 through December 25, 1979 - Reagents Used	06051640
(142)	12	1980	1	Total Tons Mined	= Line 2 + Line 3	
(143)	12	1980	2	Waste Mined	Monthly Mine Report November 21 through December 23, 1980	06051384
(144)	12	1980	3	Ore Mined	Monthly Mine Report November 21 through December 23, 1980	06051384
(145)	12	1980	4	Ore Mined	= Line 3	
(146)	12	1980	5	Ore Waste	= Line 4 - Line 6	
(147)	12	1980	6	Crude to Mill	New Mill Monthly Statistical Report November 21 through December 23, 1980	06051477
(148)	12	1980	7	Crude Dry	= Line 6	
(149)	12	1980	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(150)	12	1980	9	Product Tons	New Mill Monthly Statistical Report November 21 through December 23, 1980	06051477
(151)	12	1980	10	% Product to Crude	= Line 9 / Line 7	
(152)	12	1980	11	Mill Product Tons	= Line 9	

# LIBBY, MT VERMICULITE MINING/PRODUCTION

## Data Sources

Line No.	Column No.	Year	Line		Source	
			No.	Description	Title	Ref.
(153)	12	1980	12	Tonnage Loss	= Line 11 - Line 13	
(154)	12	1980	13	Dry Product Tons	New Mill Monthly Statistical Report November 21 through December 23, 1980	06051477
(155)	12	1980	14	Dry Product Tons	= Line 13	
(156)	12	1980	15	Tonnage Loss	= Line 14 - Line 16	
(157)	12	1980	16	Screened Product Tons	New Mill Monthly Statistical Report November 21 through December 23, 1980	06051477
(158)	12	1980	17	Sold % of Tons Mined	= Line 16 / Line 1	
(159)	12	1980	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1980	
(160)	12	1980	19-23, 25-29	Reagents	New Mill Monthly Statistical Report November 21 through December 23, 1980-Reagents Used	06051488
(161)	13	1981	1	Total Tons Mined	= Line 2 + Line 3	
(162)	13	1981	2	Waste Mined	Monthly Mine Report November 21 through December 20, 1981	06051425
(163)	13	1981	3	Ore Mined	Monthly Mine Report November 21 through December 20, 1981	06051425
(164)	13	1981	4	Ore Mined	= Line 3	
(165)	13	1981	5	Ore Waste	= Line 4 - Line 6	
(166)	13	1981	16	Screened Product Tons	Same as tons Shipped (Line 18) due to missing Mill Report for 1981	
(167)	13	1981	17	Sold % of Tons Mined	= Line 16 / Line 1	
(168)	13	1981	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1981	
(169)	14	1982	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1982	
(170)	15	1983	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1983	
(171)	16	1984	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1984	
(172)	17	1985	1	Total Tons Mined	= Line 2 + Line 3	
(173)	17	1985	2	Waste Mined	Monthly Report Year End Summary 1986 - Mine Monthly Report - (Prior Year)	LSB1900539
(174)	17	1985	3	Ore Mined	Monthly Report Year End Summary 1986 - Mine Monthly Report - (Prior Year)	LSB1900539
(175)	17	1985	4	Ore Mined	= Line 3	
(176)	17	1985	5	Ore Waste	= Line 4 - Line 6	
(177)	17	1985	6	Crude to Mill	Monthly Report Year End Summary 1986 - Mine Monthly Report - (Prior Year)	LSB1900539
(178)	17	1985	7	Crude Dry	= Line 6	
(179)	17	1985	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(180)	17	1985	16	Screened Product Tons	Same as tons Shipped (Line 18) due to missing Mill Report for 1981	
(181)	17	1985	17	Sold % of Tons Mined	= Line 16 / Line 1	
(182)	17	1985	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1985	
(183)	18	1986	1	Total Tons Mined	= Line 2 + Line 3	
(184)	18	1986	2	Waste Mined	Monthly Report Year End Summary 1986 - Monthly Mine Report	LSB1900540
(185)	18	1986	3	Ore Mined	Monthly Report Year End Summary 1986 - Monthly Mine Report	LSB1900540
(186)	18	1986	4	Ore Mined	= Line 3	
(187)	18	1986	5	Ore Waste	= Line 4 - Line 6	
(188)	18	1986	6	Crude to Mill	Monthly Report Year End Summary 1986 - Mill Monthly Statistical Report	LSB1900552
(189)	18	1986	7	Crude Dry	= Line 6	
(190)	18	1986	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(191)	18	1986	9	Product Tons	Monthly Report Year End Summary 1986 - Mill Monthly Statistical Report	LSB1900552
(192)	18	1986	10	% Product to Crude	= Line 9 / Line 7	
(193)	18	1986	11	Mill Product Tons	= Line 9	
(194)	18	1986	12	Tonnage Loss	= Line 11 - Line 13	
(195)	18	1986	13	Dry Product Tons	Monthly Report Year End Summary 1986 - Mill Monthly Statistical Report	LSB1900552
(196)	18	1986	14	Dry Product Tons	= Line 13	
(197)	18	1986	15	Tonnage Loss	= Line 14 - Line 16	
(198)	18	1986	16	Screened Product Tons	Monthly Report Year End Summary 1986 - Mill Monthly Statistical Report	LSB1900552
(199)	18	1986	17	Sold % of Tons Mined	= Line 16 / Line 1	
(200)	18	1986	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1986	
(201)	18	1986	19-23, 25-29, 35	Reagents	Monthly Report Year End Summary 1986 - Reagent Consumption and Costs	LSB1900564
(202)	19	1987	1	Total Tons Mined	= Line 2 + Line 3	
(203)	19	1987	2	Waste Mined	Monthly Report Year End Summary 1987 - Monthly Mine Report	LSB1900647

# LIBBY, MT VERMICULITE MINING/PRODUCTION

## Data Sources

Line No.	Column No.	Year	Line		Source	
			No.	Description	Title	Ref.
(204)	19	1987	3	Ore Mined	Monthly Report Year End Summary 1987 - Monthly Mine Report	LSB1900647
(205)	19	1987	4	Ore Mined	= Line 3	
(206)	19	1987	5	Ore Waste	= Line 4 - Line 6	LSB1900654
(207)	19	1987	6	Crude to Mill	Monthly Report Year End Summary 1987 - Mill Monthly Statistical Report	
(208)	19	1987	7	Crude Dry	= Line 6	LSB1900654
(209)	19	1987	8	Fines & Coarse Tailings	= Line 7 - Line 9	
(210)	19	1987	9	Product Tons	Monthly Report Year End Summary 1987 - Mill Monthly Statistical Report	LSB1900654
(211)	19	1987	10	% Product to Crude	= Line 9 / Line 7	
(212)	19	1987	11	Mill Product Tons	= Line 9	LSB1900654
(213)	19	1987	12	Tonnage Loss	= Line 11 - Line 13	
(214)	19	1987	13	Dry Product Tons	Monthly Report Year End Summary 1987 - Mill Monthly Statistical Report	LSB1900654
(215)	19	1987	14	Dry Product Tons	= Line 13	
(216)	19	1987	15	Tonnage Loss	= Line 14 - Line 16	LSB1900654
(217)	19	1987	16	Screened Product Tons	Monthly Report Year End Summary 1987 - Mill Monthly Statistical Report	
(218)	19	1987	17	Sold % of Tons Mined	= Line 16 / Line 1	LSB1900671
(219)	19	1987	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1987	
(220)	19	1987	19-23, 25-29, 35	Reagents	Monthly Report Year End Summary 1987 - Reagent Consumption and Costs	LSB1900671
(221)	20	1988	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1988	
(222)	21	1989	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1989	
(223)	22	1990	18	Tons Shipped	Spreadsheet - Tons of Crude Ore Shipped From Libby, Montana-1990	